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Dental implant register: Summary and consensus statements of group 2. The 5 EAO Consensus Conference 2018

Klinge, Björn ; Sanz, Mariano ; Alcoforado, Gil ; Bienz, Stefan P ; Cosyn, Jan ; De Bruyn, Hugo ;
Derks, Jan ; Figuero, Elena ; Gurzawska, Katarzyna ; Heitz-Mayfield, Lisa ; Jung, Ronald E ; Ornekul,
Turker ; Sagado, Alberto

Abstract: **OBJECTIVES** This publication reports the EAO Workshop group-2 and consensus plenary discussions and statements on a narrative review providing the background and possible facilities and importance of a dental implant register, to allow for a systematic follow-up of the clinical outcome of dental implant treatment in various clinical settings. It should be observed that the format of the review and the subsequent consensus report consciously departs from conventional consensus publications and reports. **MATERIAL AND METHODS** The publication was a narrative review on the presence and significance of quality registers regarding select medical conditions and procedures. The group discussed and evaluated the publication and made corrections and recommendations to the authors and agreed on the statements and recommendations described in this consensus report. **RESULTS** Possible registrations to be included in an implant register were discussed and agreed as a preliminary basis for further development, meaning that additional parameters be included or some be deleted. **CONCLUSIONS** It was agreed to bring the idea of an implant quality register, including the presented results of discussions and proposals by the group- and plenary sessions, to the EAO Board for further discussion and decision.

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Dental implant register: Summary and consensus statements of group 2. The 5th EAO Consensus Conference 2018

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Abstract

Objectives: This publication reports the EAO Workshop group-2 and consensus plenary discussions and statements on a narrative review providing the background and possible facilities and importance of a dental implant register, to allow for a systematic follow-up of the clinical outcome of dental implant treatment in various clinical settings. It should be observed that the format of the review and the subsequent consensus report consciously departs from conventional consensus publications and reports.

Material and methods: The publication was a narrative review on the presence and significance of quality registers regarding select medical conditions and procedures. The group discussed and evaluated the publication and made corrections and recommendations to the authors and agreed on the statements and recommendations described in this consensus report.

Results: Possible registrations to be included in an implant register were discussed and agreed as a preliminary basis for further development, meaning that additional parameters be included or some be deleted.

Conclusions: It was agreed to bring the idea of an implant quality register, including the presented results of discussions and proposals by the group- and plenary sessions, to the EAO Board for further discussion and decision.

KEYWORDS

clinical assessment, diagnosis, epidemiology, patient centered outcomes, quality register, statistics

1 | DENTAL IMPLANT REGISTER—A NARRATIVE REVIEW AND PROPOSAL

1.1 | What is the benefit of having medical registers?

There are several medical conditions (e.g., diabetes, rheumatoid arthritis etc.) and interventions (e.g., hip replacement therapies and cataract surgery,) where medical registers have been implemented in developed countries. These have contributed to improved outcomes for patients and allowed systematic evaluation of health and quality of care. The resulting databases have supported clinical and epidemiological research. The need of regular recall registration has helped the implementation of effective preventive measures and hence reduced complications.

Care providers have also benefited from improved standards of care through the establishment of clear treatment guidelines. They have also had guidance on the choice of drugs and devices with fewer reported problems. Professionals may have been initially reluctant to participate, but through peer support and benchmarking these barriers have been overcome.

For health provider organizations, standards of care have improved, and patient involvement has increased, thus enhancing patient-health practitioner relationships.

1.2 | What is the experience of registers in oral implant therapy?

There have been initiatives in Sweden, Denmark, Finland, and Australia. These initiatives have in essence come from the profession, which have often obtained financial and technical support from governmental health agencies; however, the adherence to these registers has been limited.

The availability of registry data from selected clinics has the potential to provide a good benchmark as a reference for outcomes in implant dentistry. This may allow practitioners to compare themselves with this data, and in addition, patients may request that their data be included in these registers. Furthermore, the introduction of new treatments and technologies may be assessed in a more rapid and less biased manner than in established research institutions and universities (Klinge et al., 2018).

The lack of obligation to participate has made many professionals reluctant to participate. This may be due to the required investment

in time and the fear of exposing failures, although the proposed registers are fully anonymous and the access to the individual's clinician data is restricted to the respective clinician.

1.3 | What are the perceived advantages and disadvantages of an oral implant registry

1.3.1 | Advantages

- To provide information about treatment, implant systems, and components for both patients and clinicians
- To develop early warning systems to detect problems or complications associated with specific implants or procedures
- To support clinical and epidemiological research
- To support all related stakeholders (governments, insurance companies, industry, patient groups) by providing comprehensive data on implant treatment
- Establishing a database of implant systems, procedures, biomaterials encompassing all oral health providers, and systems.
- To provide a benchmark for the use of implants, biomaterials, and procedures.
- By generating large comprehensive data sets, treatment outcomes of dental implants in specific patient groups can be evaluated (rare and more common systemic diseases, age, use of medications, etc.).
- To improve the profile of the dental profession by promoting a transparent registration system of all implant related procedures.
- To have the possibility of immediate on-line feedback
- To encourage preventive measures and adherence to recall programs through the reminder of recording at regular intervals
- To identify good practice, which can be shared and widely distributed.

1.3.2 | Disadvantages

- Additional administrative burden and economic impact
- Fear of external scrutiny
- Fear of being compared with peers
- Fear of not meeting the accepted standards
- Time needed for manual input of required data.

- Concerns regarding data protection and misuse

1.4 | Who should spearhead the establishment of an implant registry?

- A reputable professional or scientific association
- Stakeholders in oral health care (national health agencies, insurance providers, clinicians, and industry) should support adherence to the registry
- Universities and education providers should be involved

1.5 | How can participation in implant registries be promoted?

- By Including registry data at national and international congresses
- By selecting key opinion leaders to present their registry data providing good examples and initiatives
- By encouraging patients to record their perception and reported outcomes
- By increasing patients' awareness of the database and the advantage of tracking their data from the registry

1.6 | What should the register include?

- Data related to the patient
 - Patient ID
- Data related to the individual implant site
 - Site #
 - Implant (brand, type, length and diameter)
 - Bone regeneration (yes/no)
 - Biomaterials used
- Data related with postoperative healing
 - Uneventful/complications
 - Use of antibiotics (yes/no)
 - Early failure (yes/no)
- Data related to the implant-supported restoration
 - Loading (immediate/staged)
 - Type of restoration (single unit, short bridge, full arch)
 - Type of retention (cemented/screw retained/removable)
 - Type of abutment (customized/prefabricated)
- Data related to the patient supportive care (recorded at recall visits)

Recommended recall interval (_ times per year)
 Record technical complications (when it occurs)
 Record biological complications (when it occurs)
 Record implant loss

1.7 | How could a European-based implant registry be implemented?

- We consider EAO the most appropriate host for launching this project
- First step should be to present the EAO General Assembly an well-developed implementation plan
- Establish a steering committee including experts from medical registries at European level.
- marketing the project among the EAO industrial sponsors for their support and alliance
- Develop a pilot project in key countries according to geographical distribution (north, south, west, and east)
- Present data in EAO annual meeting and to different stakeholders (professional associations, governments, health agencies, insurance companies, industry, patient groups)
- Develop the widespread implementation

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